Correspondence

The Editorial Board will be pleased to receive and consider for publication correspondence containing information of interest to physicians or commenting on issues of the day. Letters ordinarily should not exceed 600 words, and must be typewritten, double-spaced, and submitted in duplicate (the original typescript and one copy). Authors will be given an opportunity to review any substantial editing or abridgement before publication.

Preventing Osteoporosis

TO THE EDITOR: Dr Bruce Ettinger's article, "A Practical Guide to Preventing Osteoporosis," in the December 1988 issue,[1] brings out a number of interesting factors related to osteoporosis, but it also omits several.

I liked the analogy of the "bone bank account." Most "deposits" are made in adolescence and most "withdrawals" are made in the several years after menopause. It is my understanding that bone physiology is a dynamic process that continues throughout life, with a constant laying down of new bone and absorption of old bone. It would seem that absorption outstrips deposition in the later years of life. It is important that the bone bank deposit accounts be emphasized in the earlier years of life when one is in the building process.

Of the many different factors that influence calcium loss, Dr Ettinger makes no mention of some that may be of vital importance: high protein intake, caffeine, and carbonated beverages. He did mention that smoking reduces estrogen levels and that alcohol not only has a direct toxic effect on bone but is often associated with poor dietary habits, as well as decreased calcium absorption from the gut. Numerous studies have shown that high protein intake favors calcium loss in the urine. It is well documented that animal proteins are much more effective in promoting calcium loss in the urine than are proteins of vegetable origin. This appears to be because of the increased number of amino acids in animal proteins containing sulphur. The sulphur, apparently in its metabolic activity, changes the pH of the urine, favoring calcium loss. In addition, others have shown that high intake of caffeine increases urinary calcium loss. If we read the label on most carbonated beverages, we notice that one of the ingredients is phosphoric acid. High phosphate intake also is known to increase urinary calcium loss. Meat also has a high phosphorus content, and this may be one of the other factors, in addition to the high protein content, that favors excessive calcium loss in those with high meat intake. Some studies have shown that even men with very high protein intake cannot take enough calcium to put them in positive calcium balance.

It is quite well documented that most Americans ingest far more protein than they need. Protein intake in this country is particularly high in both meat and dairy products. It would seem to me that a practical program for the prevention of osteoporosis should begin in childhood by encouraging children to eat a diet that is adequate in protein, to minimize the intake of caffeinated and carbonated beverages, and to promote healthy exercise to stress the bones, which will encourage good mineral deposition. The diets that are advocated by both the American Cancer Society and the American Heart Association would have adequate protein and be low in total fat, particularly saturated fat and cholesterol, and high in fiber and vitamin and mineral content. The adoption of the life-style and eating habits promoted by the American Cancer Society and the American Heart Association would not only reduce the risk for cancer and cardiovascular disease but also for osteoporosis, diabetes, gallbladder disease, obesity, diverticulosis, diverticulitis, and a whole host of other disease entities.

IRA E. BAILIE, MD
President
Stanislaus-Tuolumne Unit
American Cancer Society
1015 E Main St
Turlock, CA 95380

REFERENCE

1. Ettinger B: A practical guide to preventing osteoporosis, *In* Women and Medicine (Special Issue). West J Med 1988; 149:691-695

Public Health Notes

TO THE EDITOR: Here are two public health concerns that we wish to bring to the attention of your readers.

Radon Testing of California Homes

In September 1988, the US Environmental Protection Agency (EPA) recommended that all homes in the nation be tested for the presence of radon. This recommendation was based on the recognized potential of radon to cause lung cancer and limited data from a survey of homes in 17 states showing elevated levels of radon in a significant number of homes in some of the states. California was not among the test states. Since the EPA's announcement, public interest in radon testing has increased notably, and we have received numerous queries from physicians requesting information on how they should advise patients.

Neither the California Department of Health Services (CDHS) nor the California Conference of Directors of Environmental Health currently recommend, as a matter of public policy, that all California homes be tested for radon. The generally mild climate, presence of predominantly low uranium content soils, and prevailing methods of home construction all militate against radon being a substantial problem in California. Likewise, specific sampling data from various parts of the state have found very few homes with elevated levels of radon. Indeed, to date, the study showing the greatest number of homes with elevated levels of radon was a survey conducted by the *Los Angeles Times,* with technical assistance from the CDHS and others, of 436 homes in Los Angeles, Riverside, Orange, San Bernardino, and Ventura counties that found 1.2% of test homes to have indoor air radon concentrations in excess of the EPA's action level of 4 pCi per liter. The overwhelming majority of homes having elevated radon levels were only mildly above the action level.

While the CDHS is currently conducting both statewide and geographically targeted testing of homes for radon contamination, we do not think that there is any reason for across-the-board testing. We do not discourage persons from having their homes tested for radon, however. If this is done,

though, we recommend an alpha track monitor be used instead of the charcoal canister device. We also encourage both medical practitioners and the public to learn more about this environmental agent and, toward that end, have produced a guidebook on radon. This book may be obtained by calling the CDHS Indoor Air Quality Program at (415) 540-2134.

KENNETH W. KIZER, MD, MPH
Director
California Department of Health Services

"Miraculous Insecticide Chalk"— An Unregistered Household Insecticide

The California Department of Health Services recently has received numerous reports of the sale of an unregistered insecticide for use against cockroaches and ants. This insecticide is prepared as a white stick simulating common blackboard chalk, and lines are drawn where the insects are to be controlled. It is manufactured in China and is not registered with either the US Environmental Protection Agency or the California Department of Food and Agriculture. This product is being sold to the public primarily through flea markets and Chinese import stores, with its use most often being reported in Asian restaurants and migrant labor camps.

Samples of "Miraculous Insecticide Chalk" submitted by the public have been found to contain 0.71% of a synthetic pyrethroid compound called deltamethrin. Deltamethrin is mildly toxic, with the most likely toxic manifestations being irritation of the mouth if ingested by a child. Ingesting small amounts—one piece of chalk or less—should require no medical therapy. Ingesting larger amounts should be managed supportively; no antidote is known. Since the product has not gone through the proper regulatory channels, we have no assurance that either active or inert ingredients pose only a minimal health hazard.

The sale of "Miraculous Insecticide Chalk" is illegal in California, and its use in restaurants is a violation of California's Health and Safety Code. Use of the product should be reported to local public health officials or local county agricultural commissioners.

KENNETH W. KIZER, MD, MPH
Director
JOHN H. POORBAUGH, PhD
Senior Public Health Biologist
Environmental Management Branch
California Department of Health Services
714 P Street
Sacramento, CA 95814

Screening for Sleep Apnea

To THE EDITOR: The prevalence of sleep apnea is thought to be about 1% to 3%,[1] yet the medical literature infrequently reports efficient screening methods for this condition.[2] Screening is essential for cost containment.

We analyzed 33 polysomnography reports to determine a suitable method of screening patients before submitting them to full testing. We used the apnea-hypopnea index and a severity index to rate sleep apnea on a scale of zero to five. We found that an oximeter cutoff of 85% oxygen saturation would separate patients with 93% sensitivity and 75% specificity into a normal or mildly abnormal group versus those with clinically significant apnea.

We then used an oximeter[3] to screen 100 consecutive patients in their homes. Of those tested, 16 were normal (all O_2 saturations $\geq 90\%$) and a further 16 were mildly abnormal (lowest O_2 saturations, 85% to 89%). Desaturation episodes, when present, were seen clearly on the oximetry recorder strips, often in a "sawtooth" pattern suggesting obstruction.

We used a finger probe and a commercially available oximeter with stripchart (Biox IVA, Ohmeda Inc, Boulder, Colo). Patients had no difficulty with the device. We use the same device to evaluate the effect of follow-up continuous positive airway pressure[4] on the apnea.

We think patients can be safely and efficiently screened using portable oximetry. Our cost for polysomnography is $450 to $1,500, while oximetry costs $70—that is, about as much as an electrocardiogram.

JAMES J. NESTOR, MD
Department of Medicine
WILLIAM LIKOSKY, MD
Department of Neurology
GERALD SINCLAIR, MD, FRCS(C)
Department of Otolaryngology
Permanente Medical Group
Santa Clara, CA 95051-5386

REFERENCES

1. Lavie P: Incidence of sleep apnea in a presumably healthy working population: A significant relationship with excessive daytime sleepiness. Sleep 1983; 6:312-318
2. Farney RJ, Walker LE, Jensen RL, et al: Ear oximetry to detect apnea and differentiate rapid eye movement (REM) and non-REM (NREM) sleep. Screening for the sleep apnea syndrome. Chest 1986; 89:533-539
3. Tweeddale PM, Douglas NJ: Evaluation of Biox IIA ear oximeter. Thorax 1985; 4:825-827
4. Nino-Murcia G, McCann CC, Bliwise DL, et al: Compliance and side effects in sleep apnea patients treated with nasal continuous positive airway pressure. West J Med 1989; 150:165-169

Amoxicillin Overdose With Gross Hematuria

To THE EDITOR: Amoxicillin, even in cases of significant overdose, has proved to be remarkably safe. We report the case of a child, weighing 15 kg (33 lb), who took between 5 and 11 grams of the suspension and, without any allergic signs or indications of compromised renal function, had gross hematuria, which cleared without sequelae.

Report of a Case

The patient, a 3-year-old boy, had been treated for one day with amoxicillin for an upper respiratory tract infection. Three hours before admission to hospital, he ingested between 5 and 11 grams of the suspension, taking both his own and his brother's medication. He was managed initially with outpatient observation. Shortly before admission, he complained that his penis hurt. He was then seen in the emergency department.

The patient's history was remarkable in that he was the product of a 43-week gestation and had Apgar scores of 2 and 8. He received antibiotics for 48 hours after birth and went home on the fifth postpartum day. With the exception of several bouts of otitis media, he had been well and had received routine care and immunizations.

On physical examination the patient was in no distress. He was afebrile; his blood pressure was 90/50 mm of mercury, respirations were 24, and he had a pulse rate of 96. The results of a general physical examination were unremarkable. He had one episode of emesis in the emergency department. A urinalysis showed packed red blood cells, with macroscopic crystals seen. There were no casts or other abnormalities. The patient's hemoglobin level was 124 grams per liter, blood urea nitrogen 5.7 mmol per liter (16 mg per dl), and creatinine 61.9 μmol per liter (0.7 mg per dl).